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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,411	07/01/2003	Hatsuhiko Harashina	2101-11	9453

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ARLINGTON, VA 22203

EXAMINER

SANDERS, KRIELLION ANTIONETTE

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/609,411

Applicant(s)

HARASHINA ET AL.

Examiner

Kriellion A. Sanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/1</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No 2001-72830 in view of Japanese Patent No. 63-260949.

Japanese Patent No. 2001-72830 discloses a flame-retardant polyacetal composition and a flame retardant which comprises a phosphorus-containing compound and an aromatic compound, such as a phenol novolak resin. The flame retardants are used in an amount of 1-100pbw per 100 pbw of polyacetal. The composition may also include conventional additives such as a drip-preventing agent, an antioxidant, a thermo-stabilizer, (heat stabilizer) and a filler. See the abstract.

Japanese Patent No. 63-260949 discloses a polyacetal composition comprising a hindered phenol, a metal salt of a hydroxycarboxylic acid, a lubricant, a nitrogen-containing heat stabilizer, a nucleating agent and/or antistatic agent. The compositions do not possess a phosphorus compound.

Harashina discloses a polyacetal resin composition of high flame retardancy and stability that comprises a polyacetal resin, a flame retardant, and a basic nitrogen-containing compound (amino acid, urea, amidine, aminotriazine, hydrazine, derivatives thereof, amide, urethane). The flame retardant may comprise an aromatic compound reactive to formaldehyde and a

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phosphorus-containing compound (e.g., red phosphorus, organic phosphonates, organic phosphinates, ammonium polyphosphate, and other phosphoric acid salts, phosphates), and the aromatic compound may be a hydroxyl group and/or amino group-containing compound or an aromatic ring-containing resin (e.g., novolak resins). The basic nitrogen-containing compound includes low-molecular weight compounds and macromolecular compounds (nitrogen-containing resin). The nitrogen-containing low-molecular weight compound may be monoethanolamine, diethanolamine, hexamethylenediamine, or any of other aliphatic amines, an alicyclic amine (e.g., piperidine, piperadine, and any of other alicyclic secondary amine or tertiary amine), an aromatic alkylamine (e.g., benzylamine, p-xylylenediamine, m-xylylenediamine), an amino acid or derivatives thereof. See col. 2, line 38 through col. 3, line 9 and col.26, lines 23-59.

In view of the similarities of the resinous components of the Japanese patents and Harashina, it would have been obvious to the ordinary practitioner in this art to incorporate any of the additives of the 63-260949 such as a metal salt, or a nitrogen-containing heat stabilizer in the polyacetal compositions of Japanese Patent No. 2001-72830 to achieve their usual heat-stabilizing properties. It also would have been obvious to employ the amino acid of Harashina et al as a specific type of nitrogen component such as those types suggested suggested by the Japanese references. The nitrogen component is said to provide improved stability to the resin compositions.

It also would have been obvious to omit the phosphorus flame retardant component of Japanese Patent No. 2001-72830 if flame retardant properties were not desired in the resulting composition, since omission of a component along with its concurrent function is not invention.


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3. The process of subjecting the compositions of the patents to kneading and extrusion to form a shaped article is an art recognized process that is also considered to be obvious to the ordinary practitioner of this art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kriellion A. Sanders whose telephone number is 571-272-1122. The examiner can normally be reached on Monday through Thursday 6:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kriellion A. Sanders
Primary Examiner
Art Unit 1714

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